

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931573

Luminaire Tested: DFN2DS-TR4F0-110DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931573
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-TR4F0-110DS840-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

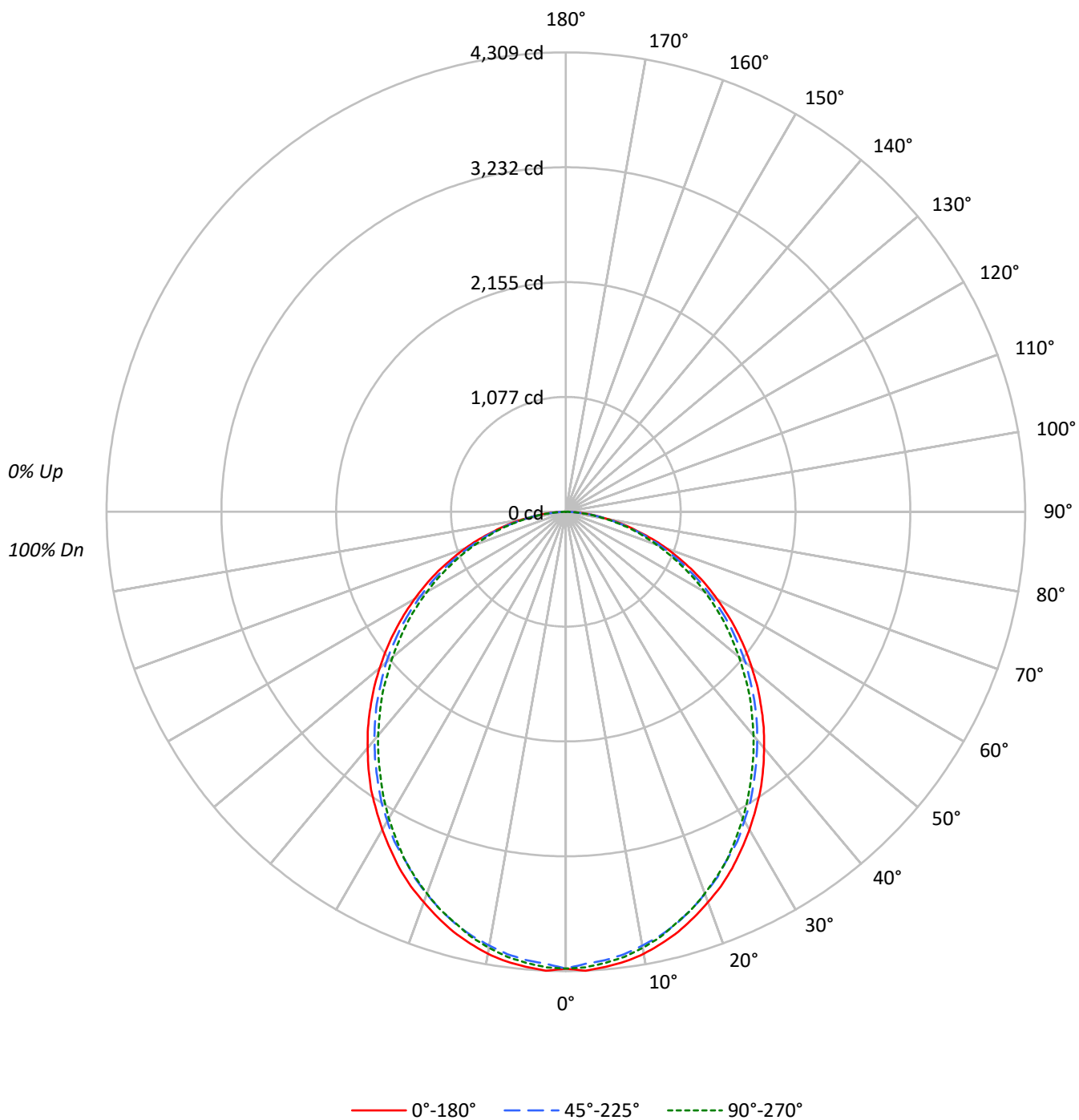
Lumens per Lamp: N/A
Luminaire Lumens: 10900.9 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 118.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3404	3404	3404
5°	3417	3368	3387
10°	3397	3333	3350
15°	3354	3290	3287
20°	3295	3225	3222
25°	3236	3146	3146
30°	3160	3073	3046
35°	3089	2985	2941
40°	2999	2897	2841
45°	2912	2809	2740
50°	2816	2719	2622
55°	2717	2614	2517
60°	2605	2488	2396
65°	2486	2362	2254
70°	2335	2210	2106
75°	2124	2035	1986
80°	1886	1828	1734
85°	1539	1467	1314

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2912 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	403.3	3.7
10°-20°	1134.6	10.4
20°-30°	1667.4	15.3
30°-40°	1936.6	17.8
40°-50°	1934.2	17.7
50°-60°	1686.5	15.5
60°-70°	1246.7	11.4
70°-80°	705.4	6.5
80°-90°	186.2	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3205.3	29.4
0°-40°	5141.8	47.2
0°-60°	8762.6	80.4
0°-90°	10900.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10900.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4284	4284	4284	4284	4284	
5°	4284	4268	4223	4256	4248	407
15°	4079	4054	4000	4017	3996	1149
25°	3691	3659	3589	3596	3589	1699
35°	3185	3144	3078	3053	3032	1989
45°	2592	2563	2501	2456	2439	2000
55°	1961	1936	1887	1838	1817	1753
65°	1323	1298	1257	1220	1199	1308
75°	692	684	663	639	647	739
85°	169	165	161	148	144	198
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4284.5	4284.5	4284.5	4284.5	4284.5
2.5°	4309.3	4288.8	4243.3	4284.5	4276.6
5°	4284.5	4268.3	4222.8	4255.6	4247.7
7.5°	4255.6	4231.1	4185.7	4218.9	4210.6
10°	4210.6	4181.7	4132.3	4165.1	4152.8
12.5°	4148.5	4124.0	4074.7	4095.2	4086.9
15°	4078.6	4054.0	4000.3	4016.9	3996.4
17.5°	3992.0	3967.6	3913.8	3934.3	3913.8
20°	3897.2	3872.7	3815.0	3827.2	3811.1
22.5°	3802.8	3765.6	3711.8	3711.8	3703.5
25°	3691.3	3658.6	3588.6	3596.5	3588.6
27.5°	3567.6	3538.7	3485.4	3473.2	3452.6
30°	3444.3	3411.1	3349.4	3337.2	3320.6
32.5°	3312.3	3287.9	3221.8	3196.9	3180.3
35°	3184.7	3143.6	3077.6	3052.6	3032.1
37.5°	3040.4	3003.3	2937.3	2908.4	2887.9
40°	2892.3	2859.1	2793.1	2756.4	2739.7
42.5°	2748.0	2714.8	2649.2	2607.7	2583.3
45°	2591.6	2562.7	2500.6	2455.7	2439.0
47.5°	2439.0	2410.2	2344.1	2298.7	2274.2
50°	2278.2	2257.7	2199.9	2142.2	2121.7
52.5°	2121.7	2092.8	2039.5	1994.0	1965.2
55°	1961.3	1936.3	1887.0	1837.5	1817.0
57.5°	1800.4	1779.9	1726.1	1676.7	1660.1
60°	1639.5	1623.4	1565.7	1520.2	1508.0
62.5°	1483.1	1454.3	1413.1	1372.1	1355.5
65°	1322.6	1297.7	1256.7	1219.5	1199.0
67.5°	1157.9	1136.9	1100.2	1071.4	1054.8
70°	1005.3	988.7	951.6	922.7	906.5
72.5°	848.8	832.2	811.7	782.9	770.6
75°	691.9	684.1	663.1	638.6	646.9
77.5°	552.1	535.4	527.1	514.9	502.7
80°	412.2	407.8	399.5	387.3	379.0
82.5°	280.2	280.2	276.3	259.7	259.7
85°	168.8	164.8	160.9	148.1	144.2
87.5°	74.3	66.0	57.7	45.4	41.0
90°	0.0	0.0	0.0	0.0	0.0

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.54	17.15	15.90	17.46	17.78	15.09	16.70	15.46	17.02	17.33
	3H	17.29	18.74	17.67	19.07	19.43	16.80	18.25	17.17	18.58	18.94
	4H	17.93	19.30	18.33	19.65	20.03	17.44	18.81	17.84	19.16	19.53
	6H	18.40	19.67	18.81	20.04	20.43	17.90	19.17	18.31	19.54	19.93
	8H	18.55	19.76	18.97	20.15	20.55	18.04	19.25	18.47	19.64	20.04
	12H	18.64	19.80	19.07	20.18	20.61	18.13	19.29	18.55	19.67	20.10
4H	2H	16.10	17.47	16.50	17.82	18.19	15.75	17.11	16.14	17.46	17.84
	3H	18.07	19.22	18.48	19.62	20.02	17.67	18.81	18.08	19.21	19.61
	4H	18.85	19.89	19.28	20.30	20.74	18.43	19.46	18.86	19.88	20.31
	6H	19.45	20.35	19.90	20.79	21.25	19.01	19.92	19.47	20.36	20.82
	8H	19.64	20.48	20.10	20.93	21.39	19.20	20.04	19.66	20.49	20.95
	12H	19.77	20.53	20.25	21.00	21.47	19.32	20.08	19.80	20.55	21.02
8H	4H	19.12	19.97	19.58	20.41	20.88	18.75	19.60	19.21	20.04	20.50
	6H	19.84	20.54	20.33	21.03	21.50	19.46	20.16	19.95	20.65	21.12
	8H	20.10	20.73	20.61	21.23	21.72	19.71	20.34	20.22	20.84	21.33
	12H	20.30	20.85	20.80	21.35	21.91	19.88	20.44	20.39	20.93	21.49
12H	4H	19.15	19.91	19.63	20.39	20.85	18.78	19.54	19.27	20.02	20.49
	6H	19.88	20.52	20.39	21.02	21.51	19.51	20.15	20.02	20.65	21.14
	8H	20.20	20.75	20.70	21.25	21.81	19.82	20.38	20.33	20.87	21.43